Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Section 68.4(a) of the Commission's Rules	)	WT Docket No. 01-309
Governing Hearing Aid-Compatible Telephones	)	RM-8658
	)	
	)	

REPLY COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association ("TIA")[1] hereby replies to the initial comments submitted in response the Commission's Notice of Proposed Rulemaking[2] in the above-captioned proceeding.

As stated in TIA's initial comments,[3] manufacturers of cellular phones believe that hearing aid users should have the ability to enjoy the use of modern essential communications tools such as cell phones. However, while TIA member companies continue to introduce a wide variety of innovative products and service features that play a role in facilitating such access, a cell phone manufacturer is limited in the control it has over whether a hearing aid user can

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1 TIA is a full-service national trade organization with membership of over 1,100 large and small companies that provide communications and information technology products, materials, systems, distribution services and professional services in the United States and around the world. The association's member companies manufacture or supply virtually all of the products used in global communications networks. TIA, accredited by the American National Standards Institute ("ANSI"), develops voluntary global industry standards for a wide variety of telecommunications products and systems.

2 *In the Matter of Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones,* WT Docket No. 01-309, RM-8658, Notice of Proposed Rulemaking, FCC 01-320 (rel. Nov. 14, 2001) ("the *NPRM*").

3 *See* TIA Comments (filed Jan. 11, 2002).

effectively use one of its phones. As a result, removal of the exemption of cell phones from the requirements of the Hearing Aid Compatibility ("HAC") Act[4] would not lead to the results universally desired. As the Commission notes,[5] 80 percent of hearing aids sold annually have no technical means to couple to telephones that are HAC (as in "hearing aid compatible" pursuant to the HAC Act), thus those hearing aid users would receive no benefit from removal of the exemption. For the other 20 percent of hearing aids, even if a handset was HAC, unless the radio frequency ("RF") interference issues are addressed, there may be problems in using such a handset/hearing aid combination. Thus, removal of the exemption could just remove non-HAC telephones from the market, denying their availability to all, even those 80 percent of hearing aid users that might be able to use them as is. Instead, scarce company resources in a sector that is in an economic depression, as well as resources of hearing aid manufacturers, should be spent addressing the interference issues.

TIA continues to urge the Commission to recognize, as other national governments such as Australia have,[6] that to enable more widespread use of cellular phones in interference-free environments by consumers with hearing impairments, improvements in RF immunity must be achieved in the receiver, in this case in the hearing aid. Fixing the receiver through RF hardening and filter modifications is the logical solution -- one that routinely is accomplished in

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4 47 U.S.C § 610.

5 *See NPRM* at ¶ 20.

6 In May 1995, the National Acoustic Laboratories in Australia published the findings of a GSM/hearing aid interaction study that said the level of interaction varies depending on the type of hearing aid. It also reported how interference between a two-watt GSM phone and hearing aids can be solved through interaction management. Among its findings, the study demonstrated that it is possible to design high-immunity hearing aids. NAL Report No. 131, *Interference to Hearing Aids by the Digital Mobile Telephone System, Global System for Mobile Communications (GSM)*, National Acoustic Laboratories (May 1995).

all other contexts. As TIA explained in its comments, it is not feasible to ask the phone manufacturers to design their products, which are based on a set of regulatory requirements and consensus technical standards, to "work with" a myriad of hearing aids that have no relevant design standards for immunity that yield a consistent hearing aid set of characteristics to use as a reference point. On the other hand, hearing aid manufacturers have a clear target to aim at in their immunity designs - the FCC's regulations and the industry standards governing cellular phones.

The hearing aid manufacturing community itself acknowledges the "non-uniform characteristics of hearing aids" noting that "all but the least expensive hearing aids are custom-fitted to the user's ear" and that the "the shape of the ear and how the individual holds a telephone may also affect interference."[7] As a result, they continue, "to obtain an interference characteristic for hearing aids would require testing every single unit."[8] The confluence in the comments of the cellular phone and hearing aid industries on these points demonstrates that the non-uniformity in hearing aid design poses an obstacle that the telecommunications industry alone cannot overcome. As a result, resources are better directed to improving hearing aid RF immunity levels than to futile efforts to make non-HAC phones HAC or removing them from the market, and not addressing the RF interference issue.

TIA cautions the Commission against accepting the blanket notion that particular digital cell phones have successfully been manufactured in a repeatable way that makes them work with most hearing aids. Without question, *some* phones will work better with *some* hearing aids for

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7 *See* Comments of the Hearing Industries Association (filed Jan. 11, 2002) at 7-8.

8 *Id*.

some users in *some* circumstances. But so many variables affect usability, for instance the customization of the hearing aid, the level of hearing loss, the manner in which the consumer holds the phone, whether the hearing aid is telecoil equipped, whether the telecoil feature - if equipped - is actually used, whether the handset is HAC, emissions from the phone based on the distance from a mobile base station, and others. The only logical conclusion must be that anecdotal evidence of usability of particular phone models should not form the basis for design requirements in the FCC's rules.

TIA and others have demonstrated in the record of this proceeding that fundamentally it is technically impossible for the FCC to adopt any rules governing only cell phone production (and not hearing aids) that would enable all hearing aid wearers to successfully use these phones. For that reason, TIA disagrees with commentors that suggest a negotiated rulemaking as a way to progress efforts towards solutions.[9] Moreover, because it is not technically possible for FCC regulations to be crafted that could outline requirements for designing digital cellular phones to work with *all* hearing aids, the Commission need not concern itself with whether to make its rules part of the equipment authorization process.[10] Again, HIA advises that there are no standards for hearing aid design that yield a "standard hearing aid" with technical characteristics for repeatable measurements nor any immunity standards incorporated into U.S. government regulations for hearing aid design and, hence, there is nothing for cell phone manufacturers to measure their products against. In fact, the suggestion by Cingular Wireless that manufacturers be "required to certify as part of the type-acceptance process that their current product lines

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[9] *See* Comments of the Rehabilitation Engineering Research Center on Telecommunications Access (filed Jan. 11, 2002) at 35.

[10] *See* Comments of Cingular Wireless, LLC (filed Jan. 11, 2002) at 6-9.

contain HAC Act compliant handset models"[11] ignores the fundamental dual problem of RF interference and HAC. If the suggestion is that manufacturers should certify a phone as "compatible," or HAC, then the consumer may be led to believe that he or she can use that mobile phone with a hearing aid because it is "compatible" in the coupling sense. However, this consumer may then discover that in fact the phone cannot be used because the hearing aid has not been immunized sufficiently against RF interference. TIA believes such an approach would be costly, ineffective, not address the real technical issues, and, most importantly, mislead the consumer.

As stated in the initial comments, TIA believes that the telecommunications industry could be called upon to lend its expertise in the field of RF design to assist the hearing aid industry in increasing the immunity levels of their products. In this industry, and many others, a wide range of products are continuously designed to resist the signals and fields generated by cell phones and other intentional transmitters. Further, the lessons learned in Australia, which resulted in the development of immunity standards for hearing aids to make them immune to RF interference, can be studied and applied in the U.S. In fact, TIA believes there would be a certain level of irresponsibility in not further exploring a success story such as Australia before imposing a regulatory requirement with no clear path to compliance or a requirement that does not address the real problem -- RF immunity.

TIA further suggests that the FCC work closely with the U.S. Food and Drug Administration ("FDA") on these matters. In light of the public interest goal of usability of cell phones with hearing aids, the FDA's oversight responsibility for hearing aids makes this course

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[11] *Id.* at 7.

prudent regardless of whether the HAC Act or other law directly mandates the FDA's involvement in this issue. The FCC and the FDA can jointly explore the Australian solution, or, at a minimum, the FCC should study it on its own and then share its findings in the form of recommendations to the FDA and/or the congressional committees with FDA oversight.

The FCC and FDA also could independently or jointly produce consumer bulletins or fact sheets[12] outlining to consumers with hearing impairments the issues involved in using cellular phones with hearing aids. They could explain to consumers relevant questions that consumers could ask of their hearing aid suppliers regarding, *e.g.*, the level of immunity of the particular hearing aid they are considering purchasing.

Conclusion

TIA urges the Commission to consider its views expressed here and in TIA's initial comments. TIA member companies continue to strive to produce communications products and solutions usable by the entirety of the population. The cellular industry, however, faces real technical limitations in reaching this goal for hearing aid users on its own. TIA thus believes that the FCC should reach out to the FDA and other appropriate government organizations. TIA believes that the government and the telecommunications industry can a play a very meaningful and supportive role in helping the hearing aid industry to continue the tremendous strides it has made in immunizing its products from harmful interference. As a result, consumers with hearing

[12] For an Australian example, *see* http://www.aca.gov.au/consumer/brochure/amps_hrgaid2.pdf.

impairments will continue reaping the benefits of routine use of existing and emerging communications technologies.

Respectfully submitted,

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